APPENDIX A

Opinion of the United States Court of Appeals for the Second Circuit

UNITED STATES COURT OF APPEALS

FOR THE SECOND CIRCUIT

No. 587—August Term, 1981

(Argued January 28, 1982 Decided May 12, 1982)

Docket No. 81-7648

BRUCE HOWES,

Plaintiff-Appellant,

against

THE GREAT LAKES PRESS CORPORATION, HOLT MANUFACTURING COMPANY, and DEVRIES BROTHERS,

Defendants-Appellees.

Before:

MESKILL, CARDAMONE AND PIERCE,

Circuit Judges.

Appeal from an order of the United States District Court for the Southern District of New York, Whitman Knapp, *J.* Appellant, Bruce Howes, brought this action against the appellees, The Great Lakes Press Corporation,

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Holt Manufacturing Company and DeVries Brothers, alleging infringement of his patent. After obtaining a jury verdict the district court, *sua sponte,* set aside the jury verdict, held that appellant's process was not patentable as a matter of law and dismissed his complaint.

Reversed, jury verdict reinstated and matter remanded.

JERRY S. COHEN, Washington, D.C. (Michael D. Hausfeld, Kohn, Milstein & Cohn, Washington, D.C., Robert Kaplan, Kaplan, Kilsheimer & Foley, New York, New York, of counsel), *for Plaintiff-Appellant.*

JAMES M. RHODES, JR., New York, New York (John M. Calimafde, Hopgood, Calimafde, Kalil, Blaustein & Judlowe, New York, New York, of counsel), *for Defendants-Appellees.*

CARDAMONE, *Circuit Judge*:

The issue raised on this appeal is whether the method devised by appellant, Bruce Howes, which makes possible the faithful transfer of color art work to fabric by means of treated heat transfer paper is a process which is patentable under 35 U.S.C. § 101.[1] We believe that it is and reverse the order of the district court which determined as a matter of law that it was not.

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1. § 101. Inventions patentable

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

35 U.S.C. § 101 (1976).

Appendix A

I

Prior State of the Art
Photography

We sketch briefly the state of the art with respect to printing on fabric, before appellant developed the process which is the subject of this litigation. Prior to 1975 offset printers utilizing four-color reproduction techniques serviced one major market with the reproduction of art work to paper through camera technique. These techniques could produce for example, magazine covers in color and advertisements for perfume or cosmetics.

To perform this work offset four-color printers had developed standard procedures. Obtaining a continuous tone negative was the first step in the preparation of lithographic plates in the printing process. In order to produce an appropriate negative, the printer went through a mental process to determine the desired strength of colors. He employed his own judgment and experience to decide upon "aim points" or "densities" he hoped to obtain in the negative so as to attain the proper color. The object to be printed (called "copy") was first photographed using a lithographic camera. This camera breaks up the tone values of a photograph into tiny dot formations during exposure by interposing a half-tone screen between the "copy" and the film. Where color reproductions were required, four separate negatives had to be made—one each for the three basic colors of red, yellow and blue, and one for black.

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In making these negatives various color correcting techniques were employed so that the final print would be an accurate reproduction of the "copy". Part of the regular procedure was to use a standard "gray scale" to determine the appropriate dot patterns and sizes which would correspond to the tonal ranges or qualities needed in preparing screened positives.

Obtaining positives is the second step in the preparation of the lithographic plates. Because printing is an inexact art, there had also been developed standard color correction techniques for use with the positives. These included etching, contacting and masking. Using these conventional techniques, dots—which are the color carriers in this form of offset printing (and which the cameraman captures on the negatives)—could be modified within a range of approximately 20 percent upward or downward.

These standards recited had evolved over a period of time and contemplated the use of normal printing inks. They were in world-wide use by printers of ordinary skill prior to 1975 in preparing standard four-color process separations to be used in offset printing.

Printing

At that time there existed several methods of transferring ink to cloth. In roller printing the cloth was fed onto a roller and pressed into direct contact with one or more engraved rollers. The engraved rollers contained a dye or colored ink which was absorbed by the cloth to produce the desired image. Screen printing was a stencil process

whereby ink was forced through a mesh to produce the desired image. Other methods existed also, but as with roller printing and screen printing, problems such as muddied images and lack of purity were encountered.

The transfer printing method, in use prior to the patent, employed a transfer sheet which was made by using a gravure printing press. This sheet was placed against the fabric, transferring the image from the sheet to the material. Gravure printing used plates that were etched to various sizes and depths creating "wells" which were filled with ink. The transfer paper was placed against the "wells" and the paper pulled the ink from the well. The process resulted in a heavy laydown of ink and lacked quality control. The final transfer to fabric could look no better than the inked paper.

Additional problems in cloth printing were created by the inks themeselves. These prior methods failed to consider the expansion characteristics of the inks and the limitations caused by impurities in them.

Gravure printing, as noted, uses engraved plates; lithography uses flat ones. In lithography the areas of the plates which eventually will be inked are treated with an oil or grease based substance. The rest of the surface is wetted with water. When ink is applied only those areas treated with oil or grease will accept it; the watered areas reject the ink, since oil and water do not mix.

In an offset lothographic printing press the plate is attached to a round cylinder which is then rotated. Contact is first made with a water bath, wetting all areas of the plate except those which have previously been treated. Further

rotation brings the plate into contact with the ink. The portions of the plate which were treated with grease accept the ink, while areas wet with water do not. The inked plate is then brought into contact with a rubber roller which picks up the ink from the plate. Transfer paper then contacts the rubber roller, and the design is transferred from the roller to the paper. Lithographic printing was in wide use prior to 1975, but not for printing on fabrics.

II

Howes' Process

Early in the 1970's a new type of dye was developed. While conventional liquid printing inks tended to blot when applied to cloth, this so-called sublimation or heat-transfer dye could print multicolored images while in a dry state and was uniquely suitable for printing on fabrics. An inherent physical characteristic of this new dye was its propensity to expand upon vaporizing. Thus, the dots of color used to transfer the image from paper to fabric were of larger size on the cloth fabric than on the paper. Where adjacent colors were different, the overlapping dots made for a muddy image. Naturally such results were not commercially viable.

It was at this point that appellant Howes and his co-patentee, Holland,[2] developed the process which is the

2. Thomas K. Holland, co-patentee, together with appellant Bruce Howes, assigned the patent to F.P. Licensing Co., Inc. which on December 23, 1976 granted exclusive rights to Howes, including the right to bring suit solely in his name under the patent.

subject of this lawsuit. They filed an application for a patent. A year and a half later they were issued United States Patent No. 3,966,396.

The principal object of the process was to print on textiles in precise four-color patterns with fine detail. The process first involved photographically reducing an original pattern into four separate color negatives.[3] In order to prepare proper negatives the inventors developed new aim points or densities which compensate for the expansion characteristics of the dye-inks. The degree of expansion of the dye-inks when subjected to heat, which was first hypothesized by Howes and confirmed later in laboratory experiments by Holland, is 500 percent in yellow, 300 percent in red and blue, and 200 percent in black.[4] Prior to this discovery of what is concededly an inherent characteristic of the dye-inks, the greatest expansion characteristic encountered in ordinary printing inks was five percent. Theorizing that the way to compensate for the substantial expansion was to reduce density readings, the co-inventors ultimately decreased the dot size by 80 percent in yellow, 60 percent in red and blue, and 50 percent in black. They also developed a new gray scale which had only one-half the range of the standard gray scale then in use.

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3. The brief description contained in the patent application states that reduction "encompasses the application of a density compensation factor to produce out-of-balance color separations. These separate negatives are further projected through a halftone grid or screen to produce a dot pattern on a halftone positive, wherein the sizes of the dots correspond to the compensated film density at sleected areas on the negative. As an additional means for assuring a corrected density, comparisons on the halftone positive are made with a modified Gray scale."

4. At the times Howes and Holland began their work, the record shows that no one was aware of the huge increase in density of the dye-inks that occurred in heat transfer.

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Having devised a method in the photographic process to reduce dot size accurately, it was also necessary to find a method for successfully printing colors on fabric. The method Howes employed to obtain this result was offset lithography[5] which prints a pattern on a transfer medium, in this case heat-transfer paper. Later, using a rotary heat press, the treated paper imprinted the pattern onto a fabric through the application of heat and pressure. Instead of spreading laterally on the surface like spilled water on a table-top, the dye goes into a fabric like shrapnel, exploding and penetrating into the fibers. During the application of heat the subliminal dye-inks change into a gaseous state, i.e., vaporize, and later condense in the fibers. The patent itself, insofar as the printing is concerned, sets forth optimum temperature, time and pressure to be used for different colors, as well as press procedure.[6]

A number of highly useful advantages accrue from this process. The most notable is that exact facsimiles can be

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5. Offset lithography is better suited than gravure printing for producing the heat-transfer paper needed for printing on textiles because of precise quality control and larger press size available.

6. The patent application described this part of the process as follows: "A planographic printing plate is then photoengraved using each of the halftone screened positives and these plates are then employed in an offset rotary press for printing a four-color dot pattern in registration on a support or transfer medium. The ink will be deposited in beads corresponding to the out-of-balance dot pattern. In a subsequent transfer printing operation, preferably utilizing a web-fed, rotary offset press, the transfer medium and a supply of fabric are fed simultaneously through a heat press; the ink is then released from the beads and is impregnated into the fabric. It has been found that this transfer procedure causes a merging through expansion of the individual ink beads in a vapor phase to thus form a continuous tone pattern in the fabric."

reproduced in multiple colors efficiently and economically. Other advantages include removal of contaminants from the dye-ink prior to its reaching the engraving plates, overcoming the limitation in ink pigmentation by introducing compensating ink and the availability of quality control without interrupting the printing operation. The result is a textile printed in fine and clear detail, rich in color. No method in use previously had produced such results.

III

On June 29, 1976 Howes commenced the instant action against Great Lakes Press Corporation (Great Lakes) for infringement of the patent. Great Lakes answered by denying the infringement and by alleging that the patent was invalid under 35 U.S.C. §§ 102 (lack of novelty), 103 (obviousness), and 112 (insufficient disclosure in application). On August 1, 1980 Holt Manufacturing Company and DeVries Brothers were granted permission to intervene and they also asserted invalidity on the same grounds, as well as section 101. Trial was had only in the issue of invalidity; the defense of non-infringement was severed for a separate subsequent trial, if necessary. Following the trial the jury returned a verdict in favor of appellant finding a valid patent.

On December 7, 1980 Great Lakes moved for judgment n.o.v., claiming that while it had defended primarily on sections 102, 103 and 112, it had also placed section 101 in issue.[7] On July 29, 1981 the trial court found appellant's

7. See n. 1, *supra*.

invention nonpatentable under section 101. The jury's verdict was set aside and the complaint dismissed. Appellant's motion for reconsideration was denied on August 31, 1981 and plaintiff then filed a timely appeal.

IV

Article 1, section 8, clause 8 of the United States Constitution gives Congress the power "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." Since the States acting individually cannot provide effective uniform protection for the writings and discoveries of authors and inventors, the reason for reposing this power in Congress is plain. James Madison noted that the utility of this grant would scarcely be questioned. The Federalist No. 43 (J. Madison). From the beginning clause 8 was intended to confer on inventors an exclusive right of ownership and use for a finite time. This right served as a reward for the benefits the public derived from the efforts of an individual, and as a stimulus to creativity. Individual reward is, of course, the inducement without which little "Progress of Science and useful Arts" could be expected. As Chief Justice Marshall expressed it—in words as pertinent now as when he wrote them—"[t]o promote the progress of useful arts, is the interest and policy of every enlightened government." *Grant v. Raymond*, 31 U.S. 217, 240 (1832).

To this end Congress has provided that "[w]hoever invents or discovers any new and useful process" may

obtain a patent therefor. 35 U.S.C. § 101 (1976). Generally, it has been stated that section 101 sets forth the subject matter that can be patented, *Diamond v. Diehr*, 450 U.S. 175 (1981); *Parker v. Flook*, 437 U.S. 584, 588 (1978); *Nickola v. Peterson*, 580 F.2d 898 (6th Cir. 1978), *cert. denied*, 440 U.S. 961 (1979), "subject to the conditions and requirement of [Title 35]," S. Rep. No. 1979, 82d Cong., 2d Sess. 5 (1952). The "Revision Notes" to the Legislative History of the Patent Act of 1952 additionally state that section 101 relates "to the subject matter for which patents may be obtained." *Id.* at 17. *See also* H.R. Rep. No. 1923, 82d Cong., 2d Sess. at 6-7, 17 (1952). Accordingly, it has been held that the ultimate validity of a patent is for the courts to decide as a matter of law. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966); *A & P Tea Co. v. Supermarket Corp.*, 340 U.S. 147, 155-56 (1950) (Douglas, *J.*, concurring). In contrast the resolution of the questions raised by the sections following section 101 entail basic factual inquiries. *See, e.g., Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 280 (1976); *Hinde v. Hot Sulphur Springs*, 482 F.2d 829 (10th Cir. 1973).

In this case appellant contends that appellees' motion presented only sections 102, 103 and 112 to the district court but that court's order was based on 101. He therefore reasons the latter issue must have been raised *sua sponte* and claims that this is error. Even were section 101 not raised by appellees, it was not error for the district court to consider it since it had the power to do so. Section 101 deals with the subject matter of patents and, as such, it is "always open to the consideration of the court, whether

the point is raised by answer or not." *Slawson v. Grand Street R.R. Co.*, 107 U.S. 649, 652 (1882). *See also, Dunbar v. Myers*, 94 U.S. 187 (1876); *Bordon Co. v. Clearfield Chesse Co.*, 369 F.2d 96, 99-100 (3d Cir. 1966); *Barkeij v. Lockheed Aircraft Corp.*, 210 F.2d 1 (9th Cir.), *cert. denied*, 348 U.S. 847 (1954).

Having recognized that the district court had the power to decide the question of patentability as a matter of law, we quickly state our conclusion that the appellant's process was patentable under section 101. We commence by observing that at the conclusion of the trial the jury returned a verdict in favor of appellant Howes. In so doing it responded to several special interrogatories and substantially disposed of the factual issues entailed by the conditions to patentability set forth in sections 102, 103 and 112.[8] In its one and one-half page memorandum the district court concluded that the patent Howes had been granted merely encompassed "*the concept* of dramatically reducing the size of the dots used in transferring the heat-transfer ink to fabric. It is clear that such a concept, however 'dramatic', is not patentable." Joint Appendix at 334.

Appellant's patent is granted a presumption of validity; the burden of establishing its invalidity rests on the party

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8. The Special Interrogatories submitted and the jury's responses follows:

Question No. 1: Was the patented process obvious? Answer: No.

Question No. 2: Was this process in public use prior to application date, December 18, 1974? Answer: No.

Question No. 3: Does the patent fail to describe the process in sufficient detail? Answer: No.

Question No. 4: Did the applicants for the patent fail in their obligation of full and fair disclosure? Answer: No.

asserting it. 35 U.S.C. § 282 (1976). The reason for this is plain. The United States Patent Office is staffed by expert and experienced personnel uniquely qualified to determine questions of patentability. *Georgia-Pacific Corp. v. United States Plywood Corp.*, 258 F.2d 124, 133 (2d Cir.), *cert. denied*, 358 U.S. 884 (1958). For that reason its grant of a patent raises a presumption of validity. However, because of its heavy workload, the presumption of validity attached to a determination of patentability made by the United States Patent Office is subject to searching review by the courts. *See Graham v. John Deere Co.*, 383 U.S. 1, 18-19 (1966); *Kahn v. Dynamics Corp. of America*, 508 F.2d 939, 942 (2d Cir. 1975); *Lemelson v. Topper Corp.*, 450 F.2d 845, 849 (2d Cir. 1971). The trial court indicated that the Patent Office's error was its implicit finding that the Howes process was patentable subject matter. Our review of the record persuades us that the Patent Office did not err when it granted the patent.

In discussing process patents courts have held that scientific truth, mathematical formulas, phenomena of nature and abstract intellectual concepts are not patentable because, as basic tools of research, no one may claim an exclusive right in them. *Parker v. Flook*, 437 U.S. 584, 589 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972); *Mackay Radio & Telegraph Co. v. Radio Corp. of America*, 306 U.S. 86, 94 (1939). But a novel and useful process employing known scientific fact may be patentable. "This is particularly true in a process claim because a new combination of steps in a process may be patentable even though all the constituents of the combination were well

known and in common use before the combination was made." *Diehr*, 450 U.S. at 188.

Patents are not granted for the natural properties inherent in things existing in nature, although they may be granted for things an inventor does with those properties. An old material cannot be patented even though someone has discovered a hitherto unknown use for it, because the material was known. A new use for old material does not make the *material* patentable. But the new use or application of an old material may be patentable. Similarly, a process or method which involves only a new use of an old material is patentable. Federico, *Commentary on the New Patent Act*, 35 U.S.C.A. 1, 16-17 (1954). In our view appellant's process patent falls within this last description.

The statutory definition of process is broad.[9] Howes' process falls well within its language since it is "a new use of a known process, machine . . . composition of matter, or material." 35 U.S.C. § 100(b) (1976). Relying on a lithographic camera, aim points, an offset lithographic printing process, heat treated transfer paper and the expansion characteristics of dye-inks, Howes and Holland put together a new process, a hitherto unthought of combination of steps, for producing exact color facsimilies to art work on textiles.

Finally, when construing the broad language of patentability contained in section 101, courts should adhere not

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9. § 100. Definitions

(b) "The term 'process' means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material."

35 U.S.C. § 100(b) (1976).

only to the letter, but also the spirit of that legislative guide. Such construction finds support in the language of section 101, its legislative history and the philosophical underpinnings which prompted its inclusion in the Constitution, as well as the literal language used. *Diamond v. Chakrabarty*, 447 U.S. 303, 308-09 (1980).

The intent of Congress to accord a broad scope to section 101 reinforces our ruling that the subject matter of Howes' patent is patentable. So viewed Howes' patent was a valid one under section 101.

V

There remains for us to consider the unresolved motion made by defendants for judgment n.o.v. after the jury found in favor of plaintiff on the issues of novelty (§ 102), obviousness (§ 103) and sufficient disclosure in patent application (§ 112). The trial court never ruled on these issues concluding instead that the process was not patentable under section 101. We have broad power under Fed.R.Civ.P. 50(b) to direct entry of judgment n.o.v. on appeal or to reverse such a judgment and direct that the jury verdict be reinstated. *Neely v. Eby Construction Co.*, 386 U.S. 317, 322 (1967); *Cargill, Inc. v. Weston*, 520 F.2d 669, 672 (8th Cir. 1975); *Hansen v. Firestone Tire and Rubber Co.*, 276 F.2d 254, 255 (6th Cir. 1960); 5A Moore's Federal Practice ¶ 50.14 at 51-119, 121; 9 C. Wright & A. Miller, *Federal Practice and Procedure* § 2540 at 612-18 (1971). Therefore, the fact that the trial judge never reached certain issues raised in the motion cannot serve to curtail our power to determine them. *See, Mays v. Pioneer Lumber Corp.*, 502 F.2d 106, 110 (4th Cir. 1974).

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When we decide whether to grant judgment n.o.v., we look to those same guides which instruct the district courts. In *Mattivi v. South African Marine Corp., "Huguenot"*, 618 F.2d 163, 167-68 (2d Cir. 1980), we set forth these standards:

> [T]he trial court cannot assess the weight of conflicting evidence, pass on the credibility of the witnesses, or substitute its judgment for that of the jury. Rather, after viewing the evidence in a light most favorable to the non-moving party (giving the non-movant the benefit of all reasonable inferences), the trial court should grant a judgment n.o.v. only when (1) there is such a complete absence of evidence supporting the verdict that the jury's findings could only have been the result of sheer surmise and conjecture, or (2) there is such an overwhelming amount of evidence in favor of the movant that reasonable and fair minded men could not arrive at a verdict against him.

The defendants may not justify judgment n.o.v. on either of these bases. The first ground is inapplicable because this is not a case where there is a complete absence of evidence in favor of plaintiff.

The motion fails on the second ground because the defendants did not establish such overwhelming evidence in their favor as to preclude a reasonable and fair-minded jury from arriving at a verdict against them. We consider the evidence in the record before us on the issues of obviousness, novelty, and patent detail.

Defendants' first contention is that Howes' patent is invalid for obviousness. See 35 U.S.C. § 103 (1976). "Under § 103, the scope and content of the prior art are to be

determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved." *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). As noted earlier, the prior art in textile printing consisted of roller and gravure printing. Defendants argue that these printing methods represent prior states of the art and should be considered in deciding the obviousness of Howes' patent. Their expert testified that prior Schultz, Sterling and Wilkinson patents, all of which relate to gravure printing, were relevant to Howes' patent. But the jury also had before it testimony from plaintiffs' expert to the effect that gravure printing is substantially different from offset printing and that the three patents in question were not relevant to Howes' patent.

With respect to differences between prior art and the claims at issue, plaintiff concedes that his invention incorporates many conventional techniques. He disputes, however, defendants' claim that his invention, taken as a whole, was obvious to one of ordinary skill in the industry. For example, the Sites' patent was relied upon by defendants to show that dot reduction had previously been used in the printing industry. This testimony was rebutted by plaintiff's expert who flatly stated that the Sites' patent was not relevant to the Howes patent. Further evidence was produced by plaintiff to show that the solution to the heat transfer problem was not obvious to one skilled in the prior state of the art. One of plaintiff's experts stated: "Well, unless he [an experienced four-color printer] had good training in chemistry, physics and probably colorant chemistry, it would not have been within his area of ex-

pertise at all." Trial Transcript at 477. Another expert testified that the teaching of the Howes patent would not have been an obvious solution to anyone else of ordinary skill in the art of separation. He answered "Yes" to the question "In your opinion as an expert, is there anything either new, novel or unique in that patent?" *Id.* at 426.

From this it is clear that the issue of obviousness was, as might be expected, simply a battle among expert witnesses. Whether we agree with defendants' experts is not determinative on a motion for judgment n.o.v.; deference must be given to the jury's assessment of credibility. Thus, review of the evidence leads us to conclude that it was not so overwhelming as to preclude a reasonable person from arriving at a verdict against the defendants on the issue of obviousness.

Defendants next contend that the Howes patent is invalid under 35 U.S.C. § 102(a) (novelty). The statute requires that before an invention is held invalid for lack of novelty, it must first be found that the invention was known or in use by others "before the invention thereof by the applicant for [the] patent." *Id.* A logical first step in the analysis of the statute is to examine exactly what defendants claim they knew and used prior to Howes' invention.

Testimony of Frank DeVries reveals that, commencing in 1973, experiments were performed by DeVries Brothers with the new dye-inks. By 1974 DeVries obtained commercially acceptable textile prints using the heat transfer method. The testimony further indicates that the process utilized by DeVries began with the standard aim points supplied by film manufacturers which approximated those used in

print shops throughout the United States. Additionally, DeVries stated that none of the teachings of the Howes patent were employed in his heat transfer work. Thus, even the uncorroborated testimony of the defendant, which must be carefully scrutinized, *see The Barbed Wire Patent*, 143 U.S. 275, 284-85 (1892), fails to demonstrate that the teachings of the Howes patent had been used prior to the plaintiff's invention.

A review of the record satisfies us that the invention in issue is indeed novel. At the very least an issue of fact was raised for the jury to resolve. It cannot be said that a reasonable person viewing the proof could not reach the conclusion that Howes' process was novel.

Finally, defendants raise the issue of patent invalidity under 35 U.S.C. § 112 (1976) (patent detail and best mode). Section 112 requires a written description of the patent which is full, clear and concise. The description should be exact enough to allow any person skilled in the art to which it pertains "to make and use the [invention]," *id.*, and should contain the best mode of carrying out the invention.

Defendants claim that because Howes' patent failed to include information pertaining to exposure and developing times it contained insufficient detail. Such contention is untenable. The Howes patent established new densities for a cameraman to aim for in producing the four-color negatives. Several factors—including type of camera, film and chemicals used—affect the ultimate product, the negative. On cross examination DeVries testified

> Q: And once a cameraman ordinarily skilled in the art has those aim points, those densities, then his

art teaches him what to do with them in terms of having his camera set up at the right lens opening, the right time and the kind of development times he uses, does he not?

A: Yes, sir.

Trial Transcript at 684. Similar testimony was given by plaintiff's expert Matthews. The jury found that the patent did not fail to describe the process in sufficient detail and that plaintiff fulfilled his obligations of full and fair disclosure.

We find therefore that the jury's verdict in response to the special interrogatories concerning these three issues was amply supported by the evidence before it, which we must view in a light most favorable to plaintiff. *O'Connor v. The Pennsylvania Railroad Co.*, 308 F.2d 911, 914 (2d Cir. 1962).

Accordingly, the judgment is reversed, the complaint and jury verdict are reinstated, the motion for judgment n.o.v. is denied and the matter remanded for trial on the issue of patent infringement.

APPENDIX B

Opinion of the United States Court of Appeals for the Second Circuit Denying Rehearing

UNITED STATES COURT OF APPEALS

SECOND CIRCUIT

At a stated term of the United States Court of Appeals, in and for the Second Circuit, held at the United States Courthouse, in the City of New York, on the 28th day of June, one thousand nine hundred and eighty-two.

No. 81-7648

BRUCE HOWES,

Plaintiff-Appellant,

v

THE GREAT LAKES PRESS CORPORATION, HOLT MANUFACTURING COMPANY, and DE VRIES BROTHERS,

Defendants-Appellees.

A petition for rehearing containing a suggestion that the action be reheard in banc having been filed herein by counsel for the defendants-appellees, The Great Lakes Press Corporation, Holt Manufacturing Company and DeVries Brothers,

Upon consideration by the panel that heard the appeal, it is

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Ordered that said petition for rehearing is Denied.

It is further noted that the suggestion for rehearing in banc has been transmitted to the judges of the court in regular active service and to any other judge on the panel that heard the appeal and that no such judge requested that a vote be taken thereon.

A. Daniel Fusaro, Clerk

by: /s/ Francis X. Gindhart

Francis X. Gindhart
Chief Deputy Clerk

APPENDIX C

Statutory Provisions Involved

35 U.S.C. § 101. Inventions Patentable

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

35 U.S.C. § 103. Conditions for Patentability; Non-Obvious Subject Matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

APPENDIX D

Unreported Opinion of the United States Court of Appeals for the District of Columbia, *Colt Industries Operating Corp.* v. *Index-Werke K.G.*, 1981

NOT TO BE PUBLISHED—SEE LOCAL RULE 8

UNITED STATES COURT OF APPEALS

FOR THE DISTRICT OF COLUMBIA CIRCUIT

SEPTEMBER TERM, 1980

Civil Action No. 76-2101

No. 79-2309

Colt Industries Operating Corporation

v.

Index-Werke K.G.
And Consolidated Case No. 79-2348

Appeal from the United States District Court
for the District of Columbia

Before ROBINSON, *Chief Judge*, TAMM and WOOD*, *Circuit Judges*.

* Of the United States Court of Appeals for the Seventh Circuit, sitting by designation pursuant to 28 U.S.C. § 291(a) (1976).

Bills of costs must be filed within 14 days after entry of judgment. The Court looks with disfavor upon motions to file bills of costs out of time.

Appendix D

ORDER

It is ordered by the Court, *sua sponte*, that the record in this case be and hereby is remanded to the District Court for further proceedings, as specified in the memorandum appended hereto.

Per Curiam

FOR THE COURT

/s/ GEORGE A. FISHER
George A. Fisher
Clerk

Appendix D

MEMORANDUM

This case is before us on appeal from an order of the District Court holding valid a patent granted to appellee and declaring appellant an infringer thereof.[1] The principal issue presented for our decision is whether the device patented met the requirement of nonobviousness specified in Section 103 of the Patent Act.[2] After a nonjury trial, the District Court filed findings of fact and conclusions of law,[3] upon which it predicated the order under attack. It is a serious inadequacy of the factual findings on points critical to appellate examination of the court's determination on nonobviousness that thus far has frustrated meaningful review.

By Section 103, enacted in 1952,[4] Congress added nonobviousness to the preexisting statutory demands for novelty[5] and utility[6] as an indispensable prerequisite to patentability. In *Graham* v. *John Deere Company*,[7] the Supreme Court prescribed a three-step factual inquiry to guide resolution of an issue on nonobviousness. First, the

1. *Colt Indus. Operating Corp. v. Index-Werke, K.G.*, Civ. No. 76-2101 (D.D.C. Oct. 10, 1979) (order), Joint Appendix (J. App.) 21.

2. Pub. L. No. 82-593, § 103, 66 Stat. 792, 798 (1952), 35 U.S.C. § 103 (1976).

3. *Colt Indus. Operating Corp.* v. *Index-Werke, K.G., supra* note 1 (memorandum) (Sept. 11, 1979), J. App. 25.

4. Pub. L. No. 82-593, § 103, 66 Stat. 792, 798 (1952), 35 U.S.C. § 103 (1976).

5. 35 U.S.C. § 102 (1976).

6. 35 U.S.C. § 101 (1976).

7. 383 U.S. 1 (1966).

Court said, "the scope and content of the prior art are to be determined;"[8] second, the "differences between the prior art and the claims at issue are to ascertained;"[9] and third, "the level of ordinary skill in the pertinent art" is to be discovered.[10] Only against this background, the Court admonished, can the obviousness or nonobviousness of a purported invention be determined.[11] Its subsequent decisions in this area have unswervingly adhered to these strictures.[12]

The factual findings of the District Court do not by any means reflect a disregard of *Graham*, or a failure to comprehend its essential commands. They are, however, lacking in the clear explication of the three-step *Graham* analysis that we must have to effectively and economically accomplish our task of appellate review. Moreover, it is not entirely evident from those findings that the *Graham* analysis was correctly applied in all of its particulars. We thus find it necessary to remand the record to the District Court for supplementation in a number of ways.[13]

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8. *Id.* at 17.

9. *Id.*

10. *Id.*

11. *Id.*

12. See, *e.g.*, *Sakraida* v. *Ag Pro Inc.*, 425 U.S. 273, 280 (1976); *Dann* v. *Johnston*, 425 U.S. 219, 226 (1976); *Anderson's-Black Rock, Inc.* v. *Pavement Salvage Co.*, 396 U.S. 57, 62 (1969).

13. A number of appellate courts have considered the question of when findings of fact by a trial court on obviousness or nonobviousness of a claimed invention are sufficiently sparse to necessitate remand. One of the more interesting cases is *Ceramic Tilers Supply, Inc.* v. *Tile Council of America, Inc.*, 378 F.2d 283, 286-287 (9th Cir. 1967), which remanded a pre-*Graham* trial court decision—

(footnote continued on next page)

Appendix D

In the findings as they currently stand, the first two steps of the *Graham* analysis have been collapsed into one analytical operation.[14] We thus lack a statement setting forth the scope and content of the prior art. On remand, the District Court should develop findings that identify the prior art that is pertinent—the "scope" of the art—and define the contributions of each item specified—the "content" of the art. Lack of such specific findings on these matters has severely hampered our review, as the litigants on appeal continue to dispute this starting step in the analysis.[15]

Once the contribution of each item of the prior art has been delineated, the court should render findings that specify precisely what the differences are between the prior art and the claimed invention. The findings now compare one-by-one the claimed invention with individual items in the prior art.[16] What we need is a comparison between the

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reported at 257 F.Supp. 339 (S.D. Cal. 1965)—for further findings. The findings developed by the District Court to satisfy *Graham* are reported in 159 U.S.P.Q. 204 (C.D. Cal. 1968). Several appellate courts have proceeded on the basis of scanty findings, see, *e.g., Price* v. *Lake Sails Supply R.M., Inc.*, 510 F.2d 388, 391-392 & n.2 (10th Cir. 1974), although they have sometimes registered their distaste for doing so, see *Satco, Inc.* v. *Transequip, Inc.*, 594 F.2d 1318, 1322 (9th Cir. 1979). We feel it far better to remand the record for supplementation when, as here, appellate review cannot be safely conducted without it.

14. *Colt Indus. Operating Corp.* v. *Index-Werke, K.G., supra* note 1, at 9-13 (memorandum) (Sept. 11, 1979) (Findings of Fact 38-42), J. App. 33-37.

15. See, *e.g.*, Brief for Appellee at 14-15.

16. *Colt Indus. Operating Corp.* v. *Index-Werke, K.G., supra* note 1, at 10-11 (memorandum) (Sept. 11, 1979) (Finding of Fact 41), J. App. 34-35.

claimed invention and the sum of prior knowledge reflected in the relevant art. Inquiry cast in this form should enable the court to conclude on which elements of the claimed invention are wholly new, which are recombinations of existing elements in new ways, and which were wholly present in the prior art.

The District Court should then proceed to develop findings on the level of "ordinary skill,"[17] as opposed to "inventive genius,"[18] that is required to ascertain the new elements found to be within the claimed invention, or to perceive the potential of the recombinations it embodies. This, the third part of the *Graham* test, was not explicitly analyzed in the District Court's findings.[19] In assessing recombinations, the court should be guided by *Anderson's-Black Rock, Inc.* v. *Pavement Salvage Co.*,[20] which defined the "ordinary skill" inquiry in recombination patent cases as whether the recombination resulted in a " 'new or different function,' "[21]—whether it had a "synergistic result"[22]

17. 35 U.S.C. § 103 (1976).

18. *Graham* v. *John Deere Co., supra* note 7, 383 U.S. at 15 n.7, quoting *Reckendorfer* v. *Faber*, 92 U.S. 347, 357 (1875).

19. The District Court stated, in Finding of Fact 39, that the claimed invention was not obvious to a person of ordinary skill, but the record contains nothing more than this assertion by the court. *Colt Indus. Operating Corp.* v. *Index-Werke, K.G., supra* note 1, at 9 (memorandum) (Sept. 11, 1979), J. App. 33.

20. *Supra* note 12. *Sakraida* v. *Ag Pro Inc., supra* note 12, which followed *Anderson's-Black Rock* and *Great Atl. & Pac. Tea Co.* v. *Supermarket Equip. Corp.*, 340 U.S. 147 (1950), which preceded it, are also informative.

21. 396 U.S. at 60, quoting *Lincoln Co.* v. *Stewart-Warner Corp.*, 303 U.S. 545, 549 (1938).

22. *Id.*

producing "an effect greater than the sum of the several effects taken separately."[23]

We leave for the District Court's decision whether it will be necessary to take further evidence, or whether these additional findings can be made on the basis of the original record. The District Court will be free, after supplementing the record with the additional findings, to recommend to us a disposition of the case should it conclude that the new analysis we direct warrants a result different from that reached previously.

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23. *Id.*

APPENDIX E

Opinion of the United States District Court for the Southern District of New York

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF NEW YORK

78 Civ. 2985 (WK)

BRUCE HOWES,

Plaintiff,

against

THE GREAT LAKES PRESS CORPORATION, HOLD MANUFACTURING COMPANY and DE VRIES BROTHERS,

Defendants.

KNAPP, *D.J.*

The defendants have moved for judgment notwithstanding the verdict or, in the alternative, a new trial on the principal ground that there was no justification for the jury's finding that plaintiff's patent was not void for obviousness.

On oral argument of this motion, we raised the question whether or not the general philosophy recently expounded by Justice Rehnquist in *Diamond* v. *Diehr* (1981) 101 S.Ct. 1048 requires us to void the patent on the more fundamental

ground of unpatentability.[1] *Diehr* established no new law, but in trenchant language emphasized the proposition that a mere concept—as opposed to a carefully developed process which may incorporate such a concept—is unpatentable. Having reviewed the Howes patent and the record in the instant case in light of this basic proposition, we conclude that the patent must be voided on the ground of unpatentability pursuant to 35 U.S.C. §101.[2] The entire gist of the testimony offered by the plaintiff and his witnesses at trial clearly established that what he and Mr. Holland sought to patent was *the concept* of dramatically reducing the size of the dots used in transferring the heat-transfer ink to fabric. It is clear that such a concept, however "dramatic", is not patentable. We consequently do not reach any of the other arguments raised by defendants.

The patent is hereby voided and the jury's verdict necessarily set aside. The complaint is dismissed.

So Ordered.

Dated: New York, New York
July 29, 1981

Whitman Knapp, U.S.D.J.

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1. There is no merit in plaintiff's suggestion that the pleadings did not alert him to a possible challenge under 35 U.S.C. §101. Two of the defendants specifically pleaded in paragraph 19 of their respective Answers and Counterclaims that the Howes patent "is invalid under 35 U.S.C. §101, ..."

2. The *Diehr* case was decided several months after the trial in the instant action. In his brief filed at our invitation after oral argument, defendants' counsel, an experienced and highly competent patent attorney, does not even mention *Diehr*, suggesting that he does not agree with our appraisal of that case's impact on the one presently before us.